



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

SPECIAL NOTICE LETTER
URGENT LEGAL MATTER
PROMPT REPLY NECESSARY
SENT VIA CERTIFIED MAIL

Bonnie Allen
President/CEO
Tucson Airport Authority
7005 South Plummer Avenue
Tucson, Arizona 85726

Michael Hein
City of Tucson Manager
255 West Alameda Street
Tucson, Arizona 85701

The Honorable Michael W. Wynne
Secretary of the United States Air Force
Room 4E874
1670 Air Force Pentagon
Washington, D.C. 20330-1670

The Boeing Company
C/O Corporation Services Company
2338 West Royal Palm Road Suite J
Phoenix, Arizona 85021

Raytheon Company
C/O CT Corporation System
2394 East Camelback Road
Phoenix, AZ 85016

Re: Special Notice Letter for the Upcoming RI/FS Activities
Tucson International Area Airport Superfund Site, Pima County, Arizona

Dear Madam and Sirs:

The United States Environmental Protection Agency ("EPA") considers your company, agency or municipality ("you") to be potentially responsible for the costs incurred in connection

with contamination at the Tucson International Area Airport Superfund Site (the "Site"), in Tucson, Arizona, and by this letter offers you the opportunity to participate in upcoming negotiations to conduct a remedial investigation ("RI") and feasibility study ("FS") for 1,4-dioxane ("DX") within the Site north of Los Reales Road. Under Section 107 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), responsible parties are liable for the cleanup of the Site, including all costs incurred by the government in responding to releases at the Site. EPA believes that some or all of the potentially responsible parties at the Site will enter into an Administrative Order on Consent ("AOC") with the EPA for the implementation of the anticipated RI/FS work and a commitment to pay future response costs incurred in conjunction with the response to DX at the Site. Furthermore, EPA anticipates that this Special Notice Letter, as discussed within, will help expedite such a settlement.

EPA first confirmed the presence of DX in groundwater at the Site in 2002. In response to the discovery, the United States Air Force discontinued reinjection of effluent containing DX into the northern portion of the Site, instead reinjecting it back into the southern portion, where it could be recaptured by the Air Force Plant 44 extraction system. Nonetheless, DX appears to be continuing to migrate toward drinking water sources in the northern portion of the Site from the previously reinjected DX, from DX evading the Air Force Plant 44 extraction system, and from smaller DX sources within the north portion of the Site. Although the United States Air Force presently is installing an improved Air Force Plant 44 extraction system that is anticipated to more completely capture and treat DX migrating from the southern portion of the Site, the contamination persisting in the northern area of the Site will remain subject to further investigation and potential remediation. Over the course of the last year, EPA has been working with the United States Air Force to scope the conduct of an investigation of the TARP area for DX. We've reached a tentative agreement on the scope of this work, which the USAF may be willing to perform.

EPA provided general notice of your potential liability for DX at the Site on or about September 9, 2004. As you know, the potentially liable parties at the Site entered into a Consent Decree in 1991 that allocated most responsibilities for contamination from hazardous substances at the Site. The 1991 Consent Decree did not address DX, and liability for DX is not included within the covenants of that agreement. Regardless, the 1991 Consent Decree includes a "reopener" provision that provides for the United States to seek additional work or money for response actions at the Site when such additional response requirements are based on conditions or information that become known to EPA after the entry of that agreement. EPA and other parties discovered DX contamination at the Site in 2001, and so without regard to any covenant in the Consent Decree, the "reopener" provision establishes a separate basis to seek additional work or money for response actions from the potentially responsible parties in addition to those commitments made in the 1991 Consent Decree.

Special Notice and Negotiation Moratorium

EPA has determined that use of the special notice procedures set forth in Section 122(e) of CERCLA, 42 U.S.C. § 9622(e), may facilitate a settlement among the potentially responsible parties and EPA for the RI/FS for DX north of Los Reales Road within the Site. Under Section 122(e) of CERCLA, this letter triggers a ninety (90)-day moratorium on certain investigative response activities at the Site. During this 90-day moratorium, EPA will not initiate the additional RI/FS activities at the Site, although EPA reserves the right to take action at the Site at any time should a significant threat to human health or the environment arise.

During this 90-day period, the potentially responsible parties are invited to participate in formal negotiations with EPA in an effort to reach a settlement to conduct or finance the additional RI/FS at the Site. EPA proposes to meet with the interested parties on July 21, 2008, in Tucson, Arizona. The 90-day negotiation period ends on or about **October 1, 2008**.

If, within sixty (60) days of your receipt of this letter, EPA does not receive a "good faith offer" consistent with the requirements stated below or it otherwise is apparent to EPA that a timely settlement cannot be reached, EPA may take appropriate action at the Site. Such action may include either of the following options: (1) EPA may fund the RI/FS and pursue a cost recovery claim against you pursuant to Section 107 of CERCLA; or (2) EPA may issue a Unilateral Administrative Order ("UAO") to you pursuant to Section 106(a) of CERCLA, requiring you to perform the additional RI/FS work. If EPA does not receive your response within 60 days of your receipt of this letter, EPA will conclude that you do not wish to negotiate a resolution of your liabilities in connection with the RI/FS and that you have declined any involvement in performing the RI/FS.

If EPA determines that your proposal is not a "good faith offer," you will be notified in writing of EPA's decision to end the moratorium. If settlement is reached between EPA and the potentially responsible parties within the negotiation moratorium, the settlement will be embodied in an AOC to be entered by EPA. If a settlement is not reached within that period and EPA issues a UAO, EPA may pursue civil litigation to require compliance from any recipient of a UAO that refuses to comply.

A good faith offer to conduct or finance the RI/FS consists of **one** written proposal by the interested potentially responsible parties that demonstrates their qualifications and willingness to conduct or finance the RI/FS and reimburse the government for associated response costs. In order to be considered a good faith offer it must contain the following elements:

- * A statement of your willingness to conduct or finance the RI/FS that is consistent with the scope of work in the included AOC.
- * A demonstration of your technical capability to undertake the RI/FS; including the identification of the firm(s) that may actually conduct the work or a description of the

process by which the firm(s) will be selected;

- * A statement of your willingness to reimburse EPA for costs the EPA would incur in overseeing your implementation of the RI/FS;

- * A response to the proposed AOC. If your offer contemplates modifications to the proposed AOC, please work from this and submit a version showing any modifications to it;

- * A detailed statement of work or workplan identifying how you intend to proceed with the RI/FS; and

- * The name, address, and telephone number of the party who will represent you in negotiations.

Existing documents that satisfy elements of an appropriate RI/FS may be incorporated into a good faith offer, final settlement or work plans as appropriate.

In accordance with CERCLA, EPA has already undertaken certain actions and incurred costs of at least **\$147,982.00** in response to DX at the Site. The exact costs will be provided to you shortly. EPA also anticipates expending additional funds for response activities at the Site, which may include the additional RI/FS or oversight of the additional RI/FS. In accordance with Section 107(a) of CERCLA, demand is hereby made for payment of the above amount plus any and all interest recoverable under Section 107 of CERCLA or under any other provisions of law.

As indicated above, EPA anticipates expending additional funds for the additional RI/FS. Whether EPA funds the entire RI/FS or simply incurs costs by overseeing the parties conducting the response activities, you are potentially liable for all expenditures plus interest.

Interest on past costs incurred shall accrue from the date of this demand for payment or any earlier demand, whatever is earlier; interest on future costs shall accrue from date of expenditure, pursuant to CERCLA § 107(a), 42 U.S.C. § 9607(a). Interest rates are variable. The rate applicable to any unpaid amounts for any fiscal year is the same as is specified for interest on investments of the Hazardous Substance Superfund, which is determined by the Department of the Treasury.

EPA is not required by CERCLA to issue a written demand for recovery of prejudgment interest. However, the date a written demand is made may be used by a court in determining the date from which prejudgment interest begins to accrue.

If you elect pay on this demand for payment now, remittance must be made payable to the "U.S. EPA Hazardous Substance Superfund" established pursuant to CERCLA in Title 26, Chapter 98 of the Internal Revenue Code, and must reference the Tucson International Area

Airport Site. Please send your remittance to:

U. S. Environmental Protection Agency
Superfund Accounting
Cincinnati Finance Center
P.O. Box 979076
St. Louis, MO 63197-9000

EPA encourages good faith negotiations between you and the EPA, as well as coordination among your company and the other parties potentially responsible for contamination at the Site. EPA encourages potentially responsible parties involved at the Site to form a working group or similar committee to represent their common interests. EPA believes that a such a group is the best vehicle for establishing and maintaining coordinated and constructive dialogue both within the group itself and between the potentially responsible parties and the EPA.

All technical questions regarding the Site or this letter should be addressed to:

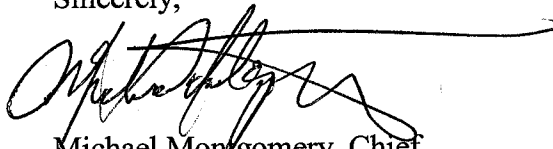
Matthew Jefferson
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street (SFD-8-2)
San Francisco, CA 94105
(415) 972-3272

Please direct any legal questions to:

J. Andrew Helmlinger
U.S. Environmental Protection Agency, Region IX
Office of Regional Counsel, (ORC-3)
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3904

My staff and I look forward to working with you during the coming months.

Sincerely,



Michael Montgomery, Chief
Superfund Division, Region IX

Enc.

APPENDIX A

STATEMENT OF WORK

FOCUSED REMEDIAL INVESTIGATION AND FEASIBILITY STUDY TO ADDRESS 1,4-DIOXANE CONTAMINATION IN THE TARP AREA AT TUCSON INTERNATIONAL AIRPORT AREA SUPERFUND SITE TUCSON, ARIZONA

1.0 INTRODUCTION

This Statement of Work (“SOW”) outlines the work to be performed by the United States Air Force, Raytheon Company, City of Tucson, Boeing, and the Tucson Airport Authority (“Settling Defendants”) at the Tucson International Airport Area Superfund Site located in Tucson, Arizona, pursuant to the Settlement Agreement and Order on Consent (“Settlement Agreement”) with the United States Environmental Protection Agency (EPA), issued under the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). This SOW specifically outlines the focused remedial investigation and feasibility study (“RI/FS”) activities to be performed by the Settling Defendants to characterize the extent and degree that 1,4-dioxane contamination has migrated from the source(s) at the Air Force Plant 44 (“AFP 44”) area or any other source(s) north of Los Reales Road via groundwater flow or reinjection (see Attachment A). 1,4-dioxane is a new contaminant of concern (“COC”) at the Site. This SOW also outlines work to be conducted by the Settling Defendants to document the history and extent of prior investigations to identify potential source(s) of 1,4-dioxane and any cleanup actions taken to remediate these source(s). For the purposes of this SOW, the term “source(s)” refers to contaminated areas on or underneath property north or south of Los Reales where contaminants of concern (COC), including 1,4-dioxane, were used, disposed or released into the environment. The extent of this contamination in soils and

groundwater both in the TARP area and the AFP 44 area comprise a portion of the Tucson International Airport Area Superfund Site ("Site"). The work to be performed under this SOW will be referred to as a Focused TARP Remedial Investigation and Feasibility Study ("Focused TARP RI/FS") because the purpose is to characterize the extent of 1,4-dioxane contamination north and south of Los Reales Road and evaluate alternatives for remedial action in the TARP area. However, research and data evaluation are required for the entire Site.

The activities to be conducted under this Focused TARP RI/FS are designed to meet the following objectives:

- Determine the vertical and lateral extent of 1,4-dioxane contamination based on the collection of new data in the TARP area north and south of Los Reales Road;
- Document, based on existing data from prior investigations, the extent of known 1,4-dioxane contamination and its source(s) north and south of the Los Reales Road;
- Identify a monitoring network for 1,4-dioxane by updating the existing well inventory;
- Identify potential source(s) of 1,4-dioxane contamination and migration pathways, including identifying and eliminating potential conduit wells;
- Identify and fill hydrogeological data gaps and develop a groundwater model for 1,4-dioxane for the entire Site;
- Obtain sufficient data to perform a risk assessment for 1,4-dioxane.
- Document the development and analysis of remedial alternatives and provide a basis for any recommended remedy, if EPA determines that a feasibility study is required based on the remedial investigation results.

2.0 OVERVIEW OF WORK TO BE CONDUCTED

2.1 General Requirements

The Settling Defendants will conduct this Focused TARP RI/FS and will produce deliverables to EPA for review and approval that are in accordance with the Settlement Agreement, this SOW, "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, U.S. EPA, Office of Emergency and Remedial Response, October 1988" (1988 RI/FS Guidance), presumptive remedy guidance for characterizing and selecting remedies at sites with volatile organic compounds in soils, and any other guidance documents that are relevant to conducting a Focused TARP RI/FS. A summary of deliverables is provided in Attachment B and selected guidance and reference documents are included in Attachment C. The 1988 RI/FS Guidance describes the report format and the required report content; relevant sections of the guidance are noted throughout this SOW in parentheses.

The Settling Defendants will furnish all necessary personnel, materials, and services needed, or incidental to performing the Focused TARP RI/FS, except as otherwise specified in the Settlement Agreement. All work performed under this SOW will be under the direction and supervision of qualified personnel. All technical reports and other deliverables will be prepared under the direction and supervision of a Professional Engineer or Registered Geologist.

The Focused TARP RI/FS may be conducted concurrently with other studies, as agreed to by the Settling Defendants and EPA. The Final Focused TARP RI Report will summarize and evaluate the data collected during the Focused RI and include sufficient information to determine whether additional investigative activities need to be conducted to fill data gaps and whether potential cleanup alternatives may need to be evaluated in a Focused TARP FS. The Final Focused TARP FS Report, if required, will describe a full range of remedial alternatives to remediate contaminated soils

and groundwater, and to address exposures. As specified in CERCLA Section 104(a)(1), EPA will provide oversight of the activities conducted by the Settling Defendants throughout the RI/FS, and the Settling Defendants will support EPA's implementation of oversight activities.

2.2 Specific Requirements

2.2.1 Scoping, Research and Planning

The Settling Defendants will first conduct a scoping and research process to identify and document source(s) of the newly identified COC, 1,4-dioxane at the entire Site, to identify data needs to characterize the extent of 1,4-dioxane contamination, to complete an updated well survey, to identify a well monitoring network for 1,4-dioxane, to identify potential conduit wells, to develop a groundwater model for 1,4-dioxane, to update Applicable or Relevant and Appropriate Requirements (“ARARs”), and to produce a Work Plan and related documents for the Focused TARP RI/FS (Section 3.0 SCOPING, RESEARCH AND PLANNING). EPA has received a draft TARP Remedial Investigation Work Plan from the United States Air Force and the RI WP will serve as working model during negotiations.

2.2.2. Remedial Investigation and Feasibility Study

The Settling Defendants will conduct an investigation at the Site according to the Focused TARP RI/FS Work Plan (“RI/FS WP”) to define the full vertical and lateral extent of 1,4-dioxane contamination that has migrated northward from source areas at AFP 44 or other areas via groundwater flow and reinjection. This investigation will focus on groundwater, but may include soils if determined necessary by EPA, to define the extent of contamination (Section 4.0 FOCUSED TARP REMEDIAL INVESTIGATION/FEASIBILITY STUDY).

2.2.3 Reporting and Data Management

The Settling Defendants will prepare a Focused TARP RI Report that summarizes and

evaluates the collected data and recommends additional investigative activities if data gaps still exist. Based on the data findings of the Focused TARP RI Report, EPA may require the Settling Defendants develop a Focused TARP FS Report to evaluate removal or remedial actions to be considered or identify potential remedial alternatives to be further evaluated for controlling migration and cleaning up the 1,4-dioxane groundwater contamination at the Site. The Settling Defendants will produce written Monthly Progress Reports, Quarterly and Annual Groundwater Monitoring Reports, and daily or weekly electronic reports when conducting field activities as required by the Settlement Agreement. The Settling Defendants will document the quality and validity of field and laboratory data compiled during the Focused TARP RI according to the procedures outlined in the Focused TARP RI/FS Workplan (Section 5.0 REPORTING AND DATA MANAGEMENT).

3.0 SCOPING, RESEARCH AND PLANNING

When scoping the specific aspects of a project, the Settling Defendants must meet with EPA within thirty (30) days of the effective date of the Settlement Agreement to discuss all project planning decisions and special concerns associated with the Site. The following activities will be performed by the Settling Defendants as a function of the scoping process:

3.1 Project Planning

The Settling Defendants will plan the specific scope within thirty (30) days after the effective date of the Settlement Agreement (“Settlement Agreement Effective Date”). Project planning activities include those tasks described below such as identifying data needs, developing a work plan, designing a data collection program and identifying health and safety protocols. The Settling Defendants will meet with EPA regarding activities described in the subsections below and before

the drafting of the scoping deliverables.

3.1.1 Preliminary Remedial Action Objectives

Remedial Action Objectives (“RAOs”) specify contaminants and media of concern, potential exposure pathways, and preliminary remediation goals. The new COC for this Focused TARP RI/FS under this SOW is 1,4-dioxane (see Attachment D). For purposes of establishing data quality objectives for laboratory analysis of groundwater samples, the Settling Defendants will use a laboratory detection limit of 1 part per billion (ppb) as a practical quantitation limit and include this value in the Quality Assurance Project Plan (“QAPP”) to be approved by EPA. For purposes of developing Site investigation screening levels for defining the extent of contamination and other objectives for the RI/FS WP, the Settling Defendants will use EPA’s Health Advisory Level for 1,4-dioxane of 3 ppb (see Attachment D).

3.1.2 Treatability Studies and Engineering Evaluations

If remedial actions involving treatment or engineering designs are identified as necessary by the Settling Defendants or EPA to protect public health or the environment, treatability studies or engineering evaluations will be required unless the Settling Defendants can demonstrate to EPA's satisfaction that they are not needed. If EPA determines treatability studies or engineering evaluations are needed, the Settling Defendants will submit plans for conducting those activities in the RI/FS WP described in Section 3.2.1 and will complete those activities concurrently with Site characterization activities.

3.1.3 Identification of Potential ARARs

The Settling Defendants will conduct a preliminary identification of potential state and federal ARARs (chemical-specific, location-specific, and action-specific) to assist in the development of the objectives for the RI/FS WP. ARAR identification will continue as Site

conditions, the extent of 1,4-dioxane contamination, and the Focused TARP RI/FS is conducted.

The Settling Defendants will describe the initial results of this review in the Research Report, and develop a final list of ARARs, in the Focused TARP FS report.

3.2 Planning Deliverables

At the conclusion of the project planning phase, the Settling Defendants will submit a RI/FS WP for determining the vertical and lateral extent of 1,4-dioxane contamination in the TARP area, a Sampling and Analysis Plan ("SAP") and QAPP, a Health and Safety Plan ("HASP"), and the Baseline Human Health Risk Assessment ("HHRA"). These planning documents, with the exception of the HASP, must be approved by EPA prior to the initiation of field activities. These deliverables are described in detail in the following subsections.

3.2.1 Focused TARP RI/FS Work Plan

Within sixty (60) days of Settlement Agreement Effective Date, the Settling Defendants will submit to EPA a Draft RI/FS WP. The Draft RI/FS WP will document the decisions and evaluations completed during the scoping and research process to identify objectives and conduct field studies, including installing and conducting water quality sampling of monitoring wells and expanding, to characterize the full extent of 1,4-dioxane-contaminated groundwater north and south of Los Reales Road due to releases or discharges of 1,4-dioxane at the Site. The RI/FS WP should be developed in conjunction with the SAP, QAPP, and the HASP, although each plan may be delivered under separate cover. The RI/FS WP will include a statement of the problem(s) and potential problem(s) posed by the Site and the objectives of the Focused TARP RI/FS, a comprehensive description of the work to be performed to meet those objectives, including the methodologies to be utilized and the rationale for performing the required activities, as well as a corresponding schedule for completion. Thirty (30) days following receipt of comments, the Settling Defendants will submit a Final RI/FS

WP that satisfactorily addresses EPA's comments.

The Settling Defendants will include in the RI/FS WP: a Site background summary setting forth the Site description and an overview of the geology/hydrogeology; a synopsis of the Site history and a description of previous responses that have been conducted at the Site by local, state, federal, or private parties; and a summary of the existing data in terms of physical and chemical characteristics of the contaminants identified, and their distribution among the environmental media at the Site. In addition, the Settling Defendants will include in the RI/FS WP a description of the Site management strategy developed by the Settling Defendants and approved by EPA during the scoping process, including a preliminary identification of remedial alternatives (including alternative treatment technologies), data needs for evaluation of remedial alternatives, proposed field activities to be conducted, a process for and manner of identifying Federal and State ARARs (chemical-specific, location-specific and action-specific), and any treatability study or engineering evaluation requirements, if needed.

The RI/FS WP will also include, but not be limited to, the following general activities and specific tasks to be conducted by the Settling Defendants to meet the objectives listed in Section 1.0:

- Provide a detailed description of the tasks to be performed, information needed for each task, information to be produced during and at the conclusion of each task, and a description of the work products that will be submitted to EPA. Include in the RI/FS WP the deliverables set forth in this statement of work, a schedule for each of the required activities that is consistent with the RI/FS guidance, and a project management plan for submitting reports and conducting meetings and presentations for EPA at the conclusion of each major phase of the Focused TARP RI/FS. Refer to Appendix B of the RI/FS Guidance for a comprehensive description of the contents of the required RI/FS WP.

- Describe a preliminary conceptual Site model, including identification of any known or suspected sources of 1,4- dioxane at the Site, types of contaminants and affected media, fate and transport of each contaminant in each medium and any known or potential human or environmental receptors. Refine the conceptual Site model as new data become available and present it in the Focused TARP Remedial Investigation Report (“RI Report”) (see Section 5.3). The conceptual Site model will be based on the research work completed during scoping, and include detailed descriptions of the configuration, operation, and historical uses of the potential source areas, detailed maps depicting all existing buildings and other Site features of interest, figures, and tables depicting the layout, locations, and uses of Site features, and any recommendations for investigation of the areas.
- Identify the current use of the Site in accordance with EPA’s “Land Use in CERCLA Remedy Selection Process,” OSWER Directive No. 9355.7-04, May 25, 1995 (hereinafter the “Land Use Guidance”), including the use(s) of property located over any ground water plume, if applicable, and state the basis for these determinations. Information regarding existing Site use should also be gathered to assist in identifying whether there may be any reasonably anticipated changes to future use of the Site.
- Update the existing well inventory, complete a conduit well investigation, and abandon any identified conduit wells as described in Section 3.2.1.1.
- Develop a Comprehensive Groundwater Monitoring Plan which identifies the groundwater monitoring network for quarterly monitoring for 1,4-dioxane, as described in Section 3.2.1.2.
- Develop a Groundwater Model Workplan for developing a model to define the flow, and fate and transport of 1,4-dioxane in groundwater at the Site as described in Section 3.2.1.3.

- Conduct quarterly groundwater monitoring for 1,4-dioxane in all wells identified for monitoring in the Comprehensive Groundwater Monitoring Plan to establish seasonal trends and to collect sufficient data for decision-making on the potential risk of exposure to 1,4-dioxane to human health and the environment at the Site. The Settling Defendants will continue to monitor all wells that exceed EPA's Health Advisory Level of 3 parts per billion (ppb), unless EPA approves changes to the Comprehensive Groundwater Monitoring Plan or QAPP or a specific request from the Settling Defendants.
- Install new monitoring wells in the upper zone regional aquifer or the lower zone regional aquifer, as determined necessary by EPA, to collect water quality data to further define the vertical and lateral extent of 1,4-dioxane contamination, to define aquifer properties, fill data gaps, to monitor plume migration, to serve as sentinel wells, and to monitor the effectiveness of existing or future remedial systems to treat 1,4-dioxane. New wells will be subject to approval of EPA after consultation with the Arizona Department of Environmental Quality ("ADEQ").
- Install test boreholes, as determined necessary by EPA, and conduct geophysical, geotechnical and depth-specific sampling to fully define the vertical and lateral extent of 1,4-dioxane, to define aquifer properties, to fill data gaps, to investigate potential conduit wells and to define the contaminant pathways from identified source(s) at the Site laterally within the upper zone regional aquifer or vertically into the lower zone regional aquifer.
- Install four (4) new monitoring wells in the upper zone regional aquifer, as directed by EPA and shown on Attachment E, to further define the western and eastern extent of the 1,4-dioxane contaminated plume. If the concentration of 1,4-dioxane in a new monitoring well

exceeds EPA's Health Advisory of 3 ppb, at EPA's direction, the Settling Defendants may need to install additional wells in that location to further define the extent of contamination.

- Monitor lower zone regional aquifer wells, as directed by EPA and shown on Attachment F, to serve as sentinel wells and monitor potential vertical migration of 1,4-dioxane north and south of Los Reales Road. If the concentration of 1,4-dioxane in a lower zone regional aquifer monitoring well exceeds EPA's Health Advisory of 3 ppb, at EPA's direction, the Settling Defendants will install additional wells in the area to further define the extent of contamination.
- Identify and investigate any potential conduit well or poorly constructed wells that could spread 1,4-dioxane laterally within the upper zone regional aquifer or vertically into the lower zone regional aquifer or that could provide usable data, including but not limited to the wells investigated and listed in Attachment G. The Settling Defendants will summarize the findings of the conduit well investigation in the Focused TARP RI/FS Report.
- Develop a Research Report to document current and historic 1,4-dioxane activities as described in Section 3.2.1.4.

3.2.1.1 Updated Well Inventory and Conduit Well Survey

The Settling Defendants will update the existing well inventory identified in Attachment G to include all public and private wells completed in both the upper zone regional aquifer and the lower zone regional aquifer within one mile of the known extent of contamination in the area north of Los Reales Road (TARP area). The updated well inventory will include details on the construction methods and integrity of the identified wells. The data and integrity of the wells identified in Attachment G is questionable due to the unknown usage and/or well construction. The Settling Defendants will investigate the integrity of the identified wells in Attachment G, and any other

potential conduit wells identified while updating the well inventory, by the use of video-logging, depth-specific sampling or other EPA-approved methods, to determine whether the data collected from such wells is usable. If the identified well is unusable, the Settling Defendants will submit a well abandonment work plan to EPA within sixty (60) days after investigation of the integrity of the well.

3.2.1.2 Comprehensive Groundwater Monitoring Plan

The Settling Defendants will update the existing groundwater monitoring plan, based on the research conducted during the Scoping Phase and the findings of the Focused RI. The purpose of this Plan will be to continue monitoring the full vertical and lateral extent of contamination in the TARP area on a quarterly basis or more frequently if required by EPA due to potential risks posed to the drinking water supply. The Comprehensive Groundwater Monitoring Plan is a 'living' document and will need to be revised to incorporate new wells added to the monitoring network during and following the Focused RI. The Plan will include both upper zone regional aquifer and lower zone regional aquifer wells for the area north of Los Reales Road, and at a minimum include the wells and sampling frequency listed in Attachment H.

3.2.1.3 Groundwater Model Workplan

The Settling Defendants will develop a Groundwater Model Workplan for defining the flow, fate, and transport of 1,4-dioxane contamination in the groundwater. The Workplan will describe how the model will be used to define the three dimensional flow of 1,4-dioxane in groundwater at the Site, to determine the fate and transport of 1,4-dioxane in groundwater at the Site, and will be used as a tool to enhance the remedial system at the Site in the future. The Settling Defendants will continue to gather sufficient data to update and validate the groundwater model with actual field data, including sampling data, aquifer tests or other hydrogeological testing, as required by EPA.

These activities will be documented in the Focused TARP RI Report. The Settling Defendants will prepare a Groundwater Modeling Report describing the final parameters of the model and providing electronic forms of the input data as required by EPA.

3.2.1.4 Research Report

The Research Report serves as a comprehensive summary, both historical and current, of all activities related to 1,4-dioxane both north and south of Los Reales Road for the entire Tucson International Airport Area Superfund Site. The Research Report will contain a compilation and summary of the activities related to this Focused TARP RI/FS, including an inventory of existing wells, including potential conduit wells, a description of the existing monitoring well network, identification of where additional monitoring wells need to be installed, and identification of data gaps that need to be filled to model the flow, and the fate and transport of 1,4-dioxane. Because 1,4-dioxane is present both north and south of Los Reales Road, the Research Report needs to describe the groundwater monitoring and modeling efforts for the entire Site as these activities apply to determining the full vertical and lateral extent of 1,4-dioxane contamination to the north and south of Los Reales Road in the TARP area. To provide a historical context for the investigation, the Research Report will include a discussion of known, suspected and potential source(s) of 1,4-dioxane and its related contaminants, such as 1,1,1-trichloroethane (1,1,1-TCA) and 1,1-Dichloroethene (1,1-DCE), at any potential source(s) located north or south of Los Reales Road within the Site. To understand the hydrogeology and the historical migration of 1,4-dioxane at the Site, the Research Report will include annual plume maps of the areas both north and south of Los Reales Road for the entire Site showing the extent of 1,4-dioxane contamination in 2002 when it was first discovered to the present. The Research Report will include a narrative description of the historical hazardous waste disposal and management practices that led to the presence of 1,4-dioxane

at the Site and a description of how or if those practices have changed. The Research Report will include a description of the use of reinjection wells at the Site, including maps showing the location of these wells, to recharge treated effluent containing 1,4-dioxane. The Research Report will also present a discussion of a preliminary conceptual Site model for both lateral and vertical pathways for 1,4-dioxane migrating north into the TARP area. This conceptual Site model for the TARP area will identify any known or suspected sources of 1,4-dioxane contamination, affected media, fate and transport of 1,4-dioxane in each medium and any known or potential human or environmental receptors. This conceptual Site model for the TARP area will be refined as new data are collected and evaluated and presented in the RI/FS WP, and related reports. The Research Report will include a preliminary list of ARARs, as described in Section 3.1.3.

3.2.2 Technical Memorandum(s)

Because of the unknown nature of the extent of groundwater contamination from 1,4-dioxane at the Site and the iterative nature of the Focused TARP RI/FS investigative process, additional data requirements and analyses may be identified throughout the process. The Settling Defendants will submit a Technical Memorandum documenting the need for additional data requirements to be identified at the request of EPA or as otherwise necessary within 30 days of identification of such need by the Settling Defendants. Upon approval, the Settling Defendants will incorporate the Technical Memorandum(s) into the RI/FS WP. The Settling Defendants is responsible for fulfilling and identifying the Data Quality Objectives (“DQOs”) described in the next section whenever such additional data and analysis needs are identified by EPA consistent with the general scope and objectives of this Focused TARP RI/FS.

3.2.3 Quality Assurance Project Plan and Sampling and Analysis Plan

Within ninety (90) days of the Settlement Agreement Effective Date, the Settling Defendants

will develop a QAPP and SAP to include sampling for 1,4-dioxane in groundwater and soils, if necessary. The QAPP/SAP is needed to ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and that the data meet DQOs. The SAP provides a mechanism for planning field activities and also consists of an updated QAPP.

In the QAPP/SAP, the Settling Defendants will define in detail the sampling, data-gathering and analytical methods that will be used for 1,4-dioxane (see Attachment D). If necessary, the Settling Defendants will also update the SAP for previously identified COCs. The Settling Defendants will include sampling objectives, sample location and frequency, sampling equipment and procedures, and sample handling and analysis. In the QAPP, the Settling Defendants will describe the project objectives and organization, functional activities, and quality assurance and quality control ("QA/QC") protocols that will be used to achieve the desired DQOs for the newly identified COCs in this SOW. The Settling Defendants will prepare the updated QAPP in accordance with "Guidance for Data Quality Objectives Process (QA/G-4)" (EPA/600/R-96/055, August 2000), "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/240/R-02/009, December 2002). In addition, the Settling Defendants will address in the updated QAPP sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting and personnel qualifications.

The Settling Defendants will demonstrate to EPA's satisfaction that each laboratory is qualified to conduct the proposed work for 1,4-dioxane and the related COCs. If necessary, the Settling Defendants will also update the QAPP for previously identified COCs. The Settling Defendants will only use laboratories that have a documented Quality Assurance Program that complies with EPA and State requirements. The laboratory QA program must be submitted to EPA.

This includes use of methods and analytical protocols for the COCs in the media of interest within detection and quantification limits consistent with both QA/QC procedures and DQOs approved in the updated QAPP for the Site by EPA. EPA may require that the Settling Defendants submit detailed information to demonstrate that the laboratory is qualified to conduct the work, including information on personnel qualifications, equipment and material specifications. The Settling Defendants will provide assurances that EPA has access to laboratory personnel, equipment and records, sample collection, transportation and analysis. Finally, laboratories must provide data according to "Laboratory Documentation Requirements for Data Validation Packages", July 1997 (EPA 9QA-07-97) or other equivalent documentation as determined by EPA.

3.2.4 Site Health and Safety Plan

Within sixty (60) days of the Settlement Agreement Effective Date, the Settling Defendants will develop or modify the HASP to include 1,4-dioxane in conformance with the health and safety program of the Settling Defendants, and in compliance with Occupational Safety and Health Administration (OSHA) regulations and protocols. If necessary, the Settling Defendants will also update the HASP for previously identified COCs. The HASP will include the eleven elements described in the RI/FS Guidance, such as a health and safety risk analysis, a description of monitoring and personnel protective equipment, medical monitoring, and Site control. It should be noted that EPA does not "approve" the HASP, but rather EPA reviews it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and the environment.

3.2.5 Human Health Risk Assessment

The baseline HHRA will be used to quantitatively describe the potential human health risk posed by the Site in the absence of remediation. Settling Defendants will submit the HHRA ninety

(90) days after completion of the Field Work. The baseline HHRA will include an exposure assessment, toxicity assessment, and risk characterization. The baseline HHRA's will be prepared in accordance with the following guidance documents:

- Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual, Interim Final, EPA-540-1-89-002 (Part A) (EPA OERR, December 1989);
- A Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual, Interim, Publications 9285.7-01B and -01C (Part B, Development of Risk-based Preliminary Remediation Goals; Part C, Risk Evaluation of Remedial Alternatives) (EPA OERR, December 1991);
- Guidance for Data Usability in Risk Assessment, EPA-540-G-90-008 (EPA, October 1990);
- Exposure Factor Handbook, EPA/600/P-95/002 (EPA 1997);
- Revised Policy on Performance of Risk Assessments During Remedial Investigation/Feasibility Studies (RI/FS) Conducted by Potentially Responsible Parties, OSWER Directive No. 9835.15c (EPA OSWER, January 1996);
- Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, OSWER Directive No. 9355.0-30 (EPA OSWER, April 22, 1991);
- Integrated Risk Information System, IRIS, database available at <http://www.epa.gov/iris> (EPA 2006);
- Paper on Tribal Issues Related To Tribal Traditional Lifeways, Risk Assessment, And Health & Well-Being: Documenting What We've Heard, By Tribal Science Council.

The BHHRA will include a conceptual exposure model that illustrates the impacted groundwater and soils for all the exposure pathways, and standard exposure parameters and methodologies for determining human health risk. The baseline HHRA's will be prepared based on

information and data developed through the field investigations and data. The baseline HHRAs will include multiple descriptors of risk and supporting qualitative information to characterize health risks potentially associated the COCs in Attachment D. The baseline HHRAs will include an exposure assessment, toxicity assessment, and a risk characterization as described in Section 3.2.8.1 through Section 3.2.8.3:

3.2.5.1 Exposure Assessment

Settling Defendants will develop an exposure assessment that describes potentially exposed populations, identifies and evaluates exposure pathways from COCs to exposed populations, estimates exposure concentrations at points of exposure using environmental fate and transport modeling, if needed, and estimates intake rates in humans from inhalation and ingestion exposure. In collaboration with EPA, Settling Defendants will develop exposure scenarios that are based upon land use assumptions for both current and possible future uses of the operable units being evaluated. The exposure scenarios will define the sources of chemical release into the environment, identify potentially exposed populations, frequencies, and duration of potential exposure, and identify possible exposure pathways through which populations could come into contact with the released chemicals.

3.2.5.2 Toxicity Assessment

Settling Defendants will develop a Toxicity Assessment that provides numerical indicators of toxicity that will be used to characterize health risks and identifies and selects cancer risk slope factors and reference doses (“RfDs”) from sources cited in EPA Region IX PRG Tables, including, but not limited to, the Integrated Risk Information System, Health Effects Assessment Summary Tables, and Health Effects Assessment documents. The Toxicity Assessment will be included in the Risk Assessment Report.

3.2.5.3 Risk Characterization

Settling Defendants will develop a characterization of health risks combining the results of the toxicity assessment and exposure assessment to provide numerical estimates of health risk. The health risk estimates will compare exposure levels with appropriate RfDs or estimates of the lifetime cancer risk associated with a particular chemical intake rate. The risk characterization will present multiple descriptors of risk and supporting qualitative information to characterize potential health risks associated with the facility. Two risk descriptors will be presented in the risk assessment: 1) Central Tendency Risk (average or median risk); and 2) the Reasonable Maximum Exposure. The risk characterization will include summary tables of the results. The Settling Defendants will address the nature and weight of evidence supporting the risk estimates and the magnitude of uncertainty surrounding the estimates.

4.0 FOCUSED TARP REMEDIAL INVESTIGATION/FEASIBILITY STUDY

During this Focused TARP RI/FS, the Settling Defendants will implement the EPA-approved RI/FS WP and SAP. The Focused TARP RI/FS activities will include performance of the field activities described in the subsections below including preparation and submission of a Focused TARP RI Report (see Section 5.3). The overall objective of this phase is to collect data to describe the COC source areas at the Site that may pose a threat to human health or the environment. This is accomplished by first determining the physiography, geology, and hydrology at the Site. The Settling Defendants will identify the sources of 1,4-dioxane, the extent of this contamination in groundwater (and soils if determined necessary by EPA), including the nature and volume of these sources of contamination, their physical and chemical constituents, and their concentrations at incremental locations as compared to background concentrations in the affected media. The Settling

Defendants will also investigate the extent of migration of the 1,4-dioxane contamination, including surface and subsurface migration pathways in groundwater, and soils if necessary, as well as its volume and any changes in its physical or chemical characteristics, to provide for a comprehensive understanding of the nature and extent of 1,4-dioxane contamination at the Site. Using this information, the Settling Defendants will then evaluate and project contaminant flow pathways, and fate and transport.

The Settling Defendants will collect and analyze field data to provide the information required to accomplish the objectives of Focused TARP RI/FS investigation. In view of the limited knowledge of the extent of contamination by 1,4-dioxane, activities may need to be iterative, and to satisfy the objectives of the Focused TARP RI/FS it may be necessary for the Settling Defendants to supplement the work specified in the initial RI/FS WP. As described in Section 3.2.2 this may be done through submission of Technical Memorandums either initiated by the Settling Defendants or requested by EPA.

4.1 Field Investigation

The field investigation includes the gathering of data to define Site physical and biological characteristics, sources of contamination, and the nature and extent of contamination at the Site. The Settling Defendants will perform these activities in accordance with the RI/FS WP, SAP, and HASP. The Settling Defendants will notify EPA with a Notification of Initiation of Field Work at least fifteen (15) days prior to initiating any physical work in the field. The Notification will include the planned dates for field activities so that EPA may adequately schedule oversight tasks. The Settling Defendants will notify EPA in writing within five (5) days of completion of field work activities, with a Notification of Completion of Field Work. The Settling Defendants will submit electronic weekly or daily reports, as requested by EPA, and monthly reports as described in Section 5.1 of this

SOW.

Field work activities may include field lay out of the sampling grid, initiating sampling, installation and calibration of equipment, initiation of analysis, etc. Field work activities will address the provisions as stated in subsections 4.1.1-4.

4.1.1 Field Support Activities

The Settling Defendants will initiate field support activities following EPA approval of the Focused RI/FS WP and SAP according to the schedule in the RI/FS WP. Field support activities may include the following: obtaining access to the Site; scheduling; and procuring equipment, office space, laboratory services, and/or contractors. The Settling Defendants will document these types of activities in the monthly progress reports according to the requirements in Section 5.1 of this SOW.

4.1.2 Physical, Chemical and Biological Characteristics

The Settling Defendants will collect data on the physical, chemical and biological characteristics of the Site and its surrounding areas including the physiography, geology, and hydrology, and specific physical characteristics identified in the RI/FS WP. The Settling Defendants will ascertain this information through a combination of physical measurements, observations, and sampling efforts and the Settling Defendants will utilize the information to define potential transport pathways and human and ecological receptor populations. In defining the Site's chemical and physical characteristics, the Settling Defendants will obtain sufficient engineering data for the projection of contaminant flow, fate, and transport. The Settling Defendants will also develop and screen preliminary remedial action alternatives, including information to assess treatment technologies and engineering design alternatives for retrofitting the existing treatment facilities.

4.1.3 Sources of Contamination

Based on the findings in the Research Report on the known or suspected source(s) of 1,4-

dioxane at the Site, the Settling Defendants will design a comprehensive groundwater monitoring program to determine appropriate locations for conducting investigative studies and monitoring north and south of Los Reales Road to determine the full extent of 1,4-dioxane contamination at the Site. For each location, the full vertical and lateral extent of contamination will be determined by sampling at incremental depths on a sampling grid, or appropriately targeted locations based on the updated SAP developed in the RI/FS WP, and refined throughout the Focused TARP RI/FS. Unless new source(s) of 1,4-dioxane are suspected by EPA north and south of Los Reales Road, based on new groundwater data or requiring further soils investigation, the primary objective of this Focused TARP RI/FS will be to investigate the extent of 1,4-dioxane contamination in groundwater and to evaluate alternatives for remedial action north and south of Los Reales Road.

4.1.4 Nature and Extent of Contamination

As a final step during the field investigation, the Settling Defendants will gather sufficient field data and information to be able to describe the nature and extent of 1,4-dioxane groundwater contamination. To initially describe the nature and extent of contamination in the Research Report, the Settling Defendants will utilize the existing information on Site physical, chemical and biological characteristics and sources of contamination to give a preliminary estimate of the contaminants that may have migrated in soils and groundwater. The Settling Defendants will then implement field studies, including a quarterly groundwater monitoring program and any other studies identified in the RI/FS WP or SAP to collect sufficient data to detect and quantify the concentration of 1,4-dioxane in the TARP area, to evaluate the migration of 1,4-dioxane through various media at the Site, to calculate the contaminant flow, fate, and transport of 1,4-dioxane, and to complete an updated risk assessment for 1,4-dioxane. The collection of this data will continue until the full vertical and lateral extent of contamination are known to EPA's Health Advisory Level of 3 ppb for

1,4-dioxane. The Settling Defendants will document the groundwater data collection efforts in the groundwater quarterly and annual reports according to the requirements in Section 5.2 of this SOW, and summarize all the data collected in the Focused TARP RI Report according to the requirements in Section 5.3 of this SOW.

4.2 Data Analyses/Evaluate Site Characteristics

The Settling Defendants will analyze and evaluate the data and include a description of the following in the Focused TARP RI Report: (1) Site physical and biological characteristics; (2) contaminant source characteristics; (3) nature and extent of contamination; and (4) contaminant flow, fate and transport. These elements are further described in the subsections below:

4.2.1 Site Characteristics

The Settling Defendants will utilize the results of the Site physical characteristics, source characteristics, and extent of contamination analyses in the analysis of contaminant flow, and fate and transport. The evaluation will include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as mobility and persistence of contaminants.

All data and programming, including any proprietary programs, will be made available to EPA, with a sensitivity analysis if requested by EPA. The Settling Defendants will agree to discuss and then collect any data identified by the EPA that are needed to complete an updated groundwater model that incorporates 1,4-dioxane.

5.0 REPORTING AND DATA MANAGEMENT

5.1 Monthly Progress Reports and Field Reporting

By the 15th day of each month, the Settling Defendants will provide to EPA written Monthly

Progress Reports. These Monthly Progress Reports will begin within thirty (30) days of the Settlement Agreement Effective Date and continue until EPA notifies the Settling Defendants that the reports are no longer required. At a minimum, with respect to the preceding month, these progress reports will: (1) describe the actions that have been taken to comply with this Settlement Agreement during that month; (2) include all results of sampling and tests and all other data received by Settling Defendants; (3) describe Work planned for the next two months with schedules relating such Work to the overall project schedule for RI/FS completion; and, (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays. Daily or weekly electronic reports may be required by EPA when the Settling Defendants is conducting field activities. The electronic reports will be required until EPA notifies the Settling Defendants otherwise.

5.2 Quarterly and Annual Groundwater Monitoring Reports

Within forty-five (45) days of the end of each calendar quarter, the Settling Defendants will submit quarterly groundwater monitoring reports containing the water quality data, water level elevations measurements and plume contour maps for 1,4-dioxane for all wells sampled, as required in the EPA-approved Comprehensive Groundwater Monitoring Plan. Within sixty (60) days of the end of each calendar year, the Settling Defendants will submit an annual groundwater monitoring report and any recommendations for changes to the monitoring network. The groundwater reports will be required until EPA notifies the Settling Defendants otherwise.

5.3 Focused TARP Remedial Investigation Report (Focused RI Report)

Within ninety (90) days of Notification of Completion of Fieldwork, the Settling Defendants will submit a draft Focused RI Report to EPA. The Settling Defendants will review and summarize in the Focused RI Report the results of activities conducted in the previous subsections to

characterize the extent of 1,4-dioxane contamination in the TARP area. The Settling Defendants will include an update of the Site conceptual model. The Focused RI Report will describe, display and evaluate Site data documenting the vertical and lateral extent of 1,4-dioxane contamination above 3 parts per billion (ppb) in the TARP area, the location and characteristics of surface and subsurface features, the sources of contamination at the Site, the migration pathways, and the flow, and fate and transport of 1,4-dioxane. The Settling Defendants will refer to the 1988 RI/FS Guidance for an outline of the format and contents of the Focused RI Report. Thirty (30) days following comment by EPA, the Settling Defendants will submit a Final Focused RI Report which satisfactorily responds to EPA's comments.

5.4 Focused TARP Feasibility Study Report (Focused TARP FS Report)

Settling Defendants will submit for EPA review and approval a draft Focused TARP FS Report sixty (60) days after EPA's determination for the need of a Feasibility Study. The Focused TARP FS Report will describe a full range of remedial alternatives to remediate contaminated soils and groundwater, and to address exposures to Site contamination. The Focused TARP FS Report will include the proposed alternatives as well as the criteria to be used to screen those treatment alternatives. Any potential modification to the existing remedy shall meet the following overall Site cleanup objectives:

- Capture and treat the extent of Site-related contamination;
- Restore the aquifers and soil contaminated by 1,4-dioxane and COCs to levels below the cleanup and performance levels;
- Remediate active sources of Site contamination; and
- Mitigate exposure to groundwater and, if determined necessary by EPA, soil.

The Focused TARP FS Report will include options in which treatment is used to reduce the

toxicity, mobility, or volume of wastes, but varying in the types of treatment, the amount treated, and the manner in which long-term residual or untreated wastes are managed; options involving containment with little or no treatment; options involving both treatment and containment; and a no-action alternative. As described in the Guidance for Conducting Remedial Investigations and Feasibility Studies (RI/FS) Under CERCLA, OSWER Directive 9355.3-01 (EPA OSWER, October 1988), alternatives shall be screened according to effectiveness, implementability and costs to determine whether an alternative should undergo a more thorough and extensive analysis. Upon receipt of EPA comments on the draft Focused TARP FS Report, the Settling Defendants will submit to EPA for review and approval a final Feasibility Study Report.

5.5 Data Management Procedures

The Settling Defendants will consistently document the quality and validity of field and laboratory data compiled during the Focused TARP RI/FS according to the procedures established in the RI/FS WP. The following subsections describe the data management procedures expected throughout the Focused TARP RI/FS:

5.5.1 Document Field Activities

The Settling Defendants will ensure that all information gathered during Site characterization will be consistently documented and adequately recorded by the Settling Defendants in well maintained field logs and laboratory reports. The method(s) of documentation must be specified in the RI/FS WP and/or the updated SAP. Field logs must be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports must document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies. Ultimately, these documents will be compiled and submitted to EPA as appendices to the Focused RI Report;

however, they may be requested by EPA throughout performance of the Focused TARP RI/FS activities and/or in the monthly progress reports. At the request of EPA, the Settling Defendants may need to provide selected data electronically on a daily or weekly basis if potential public health issues are identified by EPA.

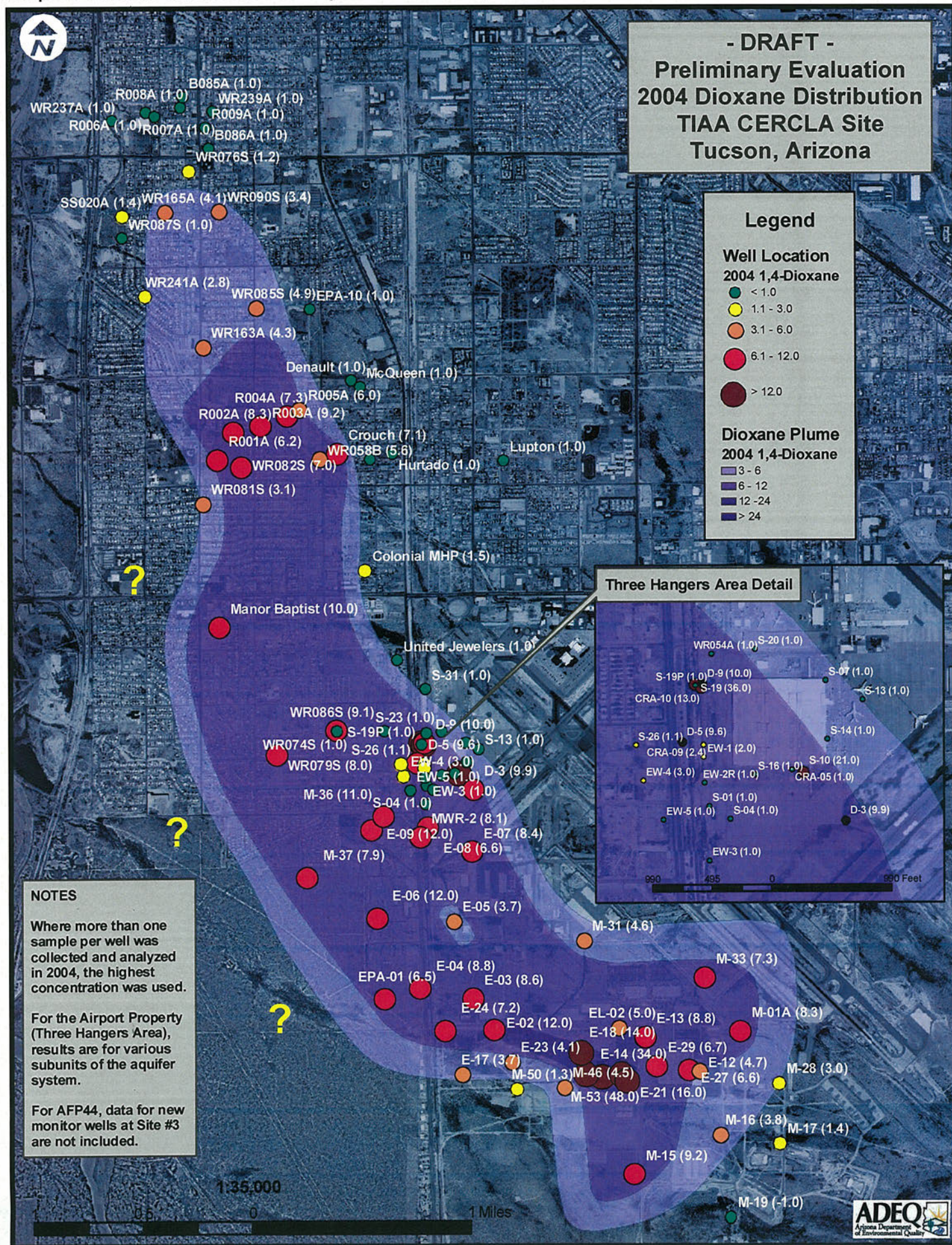
5.5.2 Sample Management and Tracking

The Settling Defendants will maintain field reports, sample shipment records, analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the development and evaluation of remedial alternatives. Analytical results developed under the RI/FS WP will not be included in any Site characterization reports unless accompanied by or cross-referenced to the corresponding QA/QC report.

In addition, the Settling Defendants will establish a data security system to safeguard chain-of-custody forms and other project records to prevent loss, damage, or alteration of project documentation.

5.5.3 Data Management Plan

Within sixty (60) days of receipt of EPA's comments on the Research Report, the Settling Defendants will develop a Data Management Plan that describes the requirements for project management systems and software, minimum data requirements, data format and backup data management. The Settling Defendants will maintain this data in an electronic database compatible with EPA data management systems. The Settling Defendants will comply with the most recent ADEQ Groundwater Data Submittal Guidance Document, currently Version 3.1, dated December 2003, including any subsequent ADEQ direction regarding electronic submittal of data, and any additional requirements EPA deems necessary.



Summary of SOW Deliverables

Attachment B

SOW Section	Submittals and Deliverables	Due Date
3.1	Scoping Meeting with EPA	30 days after Settlement Agreement Effective Date (ED)
3.2.1	Draft Focused RI/FS Work Plan*	60 days after Settlement Agreement ED
3.2.2	Technical Memorandums	Within 30 days of EPA's request
3.2.3	Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plan (SAP)	90 days after Settlement Agreement ED
3.2.4	Health and Safety Plan (HSAP)	60 days after Settlement Agreement ED
3.2.5	Baseline Human Health Risk Assessment (HHRA)	90 days after completion of Field Work
4.1	Notification of Initiation of Field Work	15 days in advance of Field Work
4.1	Notification of Completion of Field Work	5 days after completion of Field Work
5.1	Monthly Progress Reports	15th day of the month
5.2	Daily or Weekly Electronic Field Reports	As requested by EPA
5.2	Quarterly Groundwater Monitoring Report	45 days after end of quarter
5.2	Annual Groundwater Monitoring Report	60 days after end of calendar year
5.3	Draft Focused RI Report*	90 days after completion of Field Work
5.4	Draft Focused FS Report*	60 days after EPA approval to proceed with Feasibility Study
	*Final Deliverables	30 days after receipt of EPA comments

"Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities," National Institute of Occupational Safety and Health/Occupational Health and Safety Administration/United States Coast Guard/Environmental Protection Agency, October 1995.

"American National Standards Practices for Respiratory Protection," American National Standards Institute, 1981, Z88.2-1980, March 11.

"Standard Operating Safety Guides," U.S. EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9285.1-03, PB92-963414, June 1992.

"Standards for the Construction Industry," Code of Federal Regulations, Title 29, Part 1926, Occupational Health and Safety Administration.

"Standards for General Industry," Code of Federal Regulations, Title 29, Part 1910, Occupational Health and Safety Administration.

"Interim Guidance on Administrative Records for Selection of CERCLA Response Actions," U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9833.3A, March 1, 1989.

"Superfund Community Involvement Handbook," U.S. EPA, Office of Emergency and Remedial Response, Solid Waste and Emergency Response (5204G), EPA 540-K-01-003, April 2002.

"Community Relations During Enforcement Activities And Development of the Administrative Record," U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9836.0-1A, November 1988.

"Groundwater Data Submittal Guidance Document (Version 3.1)", Arizona Department of Environmental Quality Waste Programs Division, Superfund Programs Section, December 2003.

"Institutional Controls: A Site Manager's Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups," OSWER 9355.0-74FS-P, EPA 540-F-00-005, September 2000.

"Land Use in CERCLA Remedy Selection Process," OSWER Directive No. 9355.7-04, May 25, 1995.

"Reuse Assessments: A Tool to Implement the Superfund Land Use Directive," OSWER 9355.7-06P, June 4, 2001.

"Presumptive Remedy: Supplemental Bulletin Multi-Phase Extraction (MPE) Technology for VOCs in Soil and Ground Water," April 1997.

"Presumptive Response Strategy and Ex-Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites," U.S. EPA Office of Solid Waste and Emergency Response, OSWER Directive No. 9283.1-12, EPA 540-R-96-023, October 1996.

"Treatability Studies Under CERCLA", U.S. EPA Office of Solid Waste and Emergency Response, EPA-540R-92-071a, October 1992.

"A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents", U.S. EPA Office of Solid Waste and Emergency Response, EPA 540-R-98-031, OSWER Directive No. 9200.1-23P, PB98-963241, July 1999.

"Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual (Part A)," U.S. EPA Office of Emergency and Remedial Response, Interim Final, EPA-540-1-89-002, OSWER Directive No. 9285.7-02B, December 1989.

"Human Health Toxicity Values in Superfund Risk Assessments", OSWER Directive No. 9285.7-53, December 2003.

"Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals; Part C, Risk Evaluation of Remedial Alternatives)," U.S. EPA Office of Emergency and Remedial Response, Interim, Publication 9285.7-01B and -01C, December 1991.

"Ecological Risk Assessment Guidance for Superfund: Process for Designing & Conducting Ecological Risk Assessments," U.S. EPA, OSWER Directive No. 9285.7-25, June 1997.

"Guidance for Data Useability in Risk Assessment," EPA-540-G-90-008 , October, 1990.

"Revised Policy on Performance of Risk Assessments During Remedial Investigation/Feasibility Studies (RI/FS) Conducted by Potentially Responsible Parties," U.S. EPA Office of Solid Waste and Emergency Response, OSWER Directive No. 9835.15c, January 1996.

"Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions," OSWER Directive No. 9355.0-30, April 22, 1991.

"Soil Screening Guidance: Fact Sheet," U.S. EPA Office of Solid Waste and Emergency Response, Publication 9355.4-1FSA, EPA-540-F-95-041, July 1996.

"Health and Safety Requirements of Employees Employed in Field Activities," U.S. EPA, Office of Emergency and Remedial Response, EPA Order No. 1440.2, July 12, 1981.

OSHA Regulations in 29 CFR 1910.120, Federal Register 45654, December 19, 1986.

"Data Quality Objectives Process for Superfund," U.S. EPA, Office of Solid Waste and Emergency Response, OSWER Directive No. 9335.9-01A., EPA-540-R-93-071, September 1993.

"Guidance for the Data Quality Objectives Process," U.S. EPA Quality Assurance Management Staff, EPA QA/G-4, EPA 600-R-96-055, August 2000.

"Guidance for the Data Quality Objectives Process for Hazardous Waste Sites," U.S. EPA Quality Assurance Management Staff, EPA QA/G-4HW, EPA-600-R-00-007, January 2000.

"Laboratory Documentation Requirements for Data Validation Packages", EPA Region 9, EPA9QA-07-97, July 1997.

"Guidance for Preparing Standard Operating Procedures (SOPs)," Office of Environmental Information, EPA QA/G-6, EPA-240-B-01-004, March 2001.

"User's Guide to the EPA Contract Laboratory," U.S. EPA, Sample Management Office, OSWER Directive No. 9240.0-01D, January 1991.

"NIOSH Manual of Analytical Methods, 2nd Edition. Volumes I-VII for the 3rd edition, Volumes I and II, " National Institute of Occupational Safety and Health.

"Interim Guidance on Compliance with Applicable or Relevant and Appropriate Requirements," U.S. EPA Office of Emergency and Remedial Response, OSWER Directive No. 9234.0-05, July 9, 1987.

"CERCLA Compliance with Other Laws Manual (draft)," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9234.1-01 and -02, August 1988 .

"NEIC Policies and Procedures Manual, " EPA-330-9-78-001-R, May 1978, revised August 1991, .

"Permits and Permit "Equivalency" Processes for CERCLA On-site Response Actions," U.S. EPA Office of Solid Waste and Emergency Response, OSWER Directive No. 9355.7-03, February 1992.

"Procedures for Planning and Implementing Off-Site Response Actions", Federal Register, Volume 50, Number 214, pages 45933-45937, November 1985.

"Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites (draft)," U.S. EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9283.1-2.

"Presumptive Remedies: Site Characterization and Technology Selection For CERCLA Sites With Volatile Organic Compounds In Soils", U.S. EPA, Office of Solid Waste and Emergency Response, OSWER Directive No. 93550.0-48FS, EPA 540-F-93-048, September 1993.

"User's Guide to the VOC in Soils Presumptive Remedy", U.S. EPA, Office of Solid Waste and Emergency Response, OSWER Directive No. 9355.0-63FS, EPA 540-F-96-008, July 1996.

SUMMARY OF GUIDANCE AND REFERENCE DOCUMENTS

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

"The National Oil and Hazardous Substances Pollution Contingency Plan" Final Rule, Federal Register 40 CFR Part 300, March 8, 1990.

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," U.S. EPA, Office of Emergency and Remedial Response, Interim Final, OSWER Directive No. 9355.3-01, EPA-540-G-89-004, October 1988.

"Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

"Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies," Volume I, U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9835.1(c), July 1, 1991.

"Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies, Volume II" U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9835.1(d), July 1, 1991.

"Getting Ready: Scoping the RI/FS," U.S. EPA, Office of Emergency and Remedial Response, EPA-9355.3-01-FS1, November 1989.

"A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA-540-P-87-001a, OSWER Directive No. 9355.0-14, August 1987.

"Guidance to Management of Investigation-Derived Wastes," U.S. EPA Office of Solid Waste and Emergency Response, Publication 9345.3-03GS, January 1992.

"EPA Requirements for Quality Management Plans (QA/R-2)," EPA-240-B-01-002, March 2001.

"EPA Requirements for Quality Assurance Project Plans (QA/R-5)" EPA-240-B-01-003, March 2001.

"Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/240/R-02/009, December 2002).

CONTAMINANTS OF CONCERN AND RELATED STANDARDS

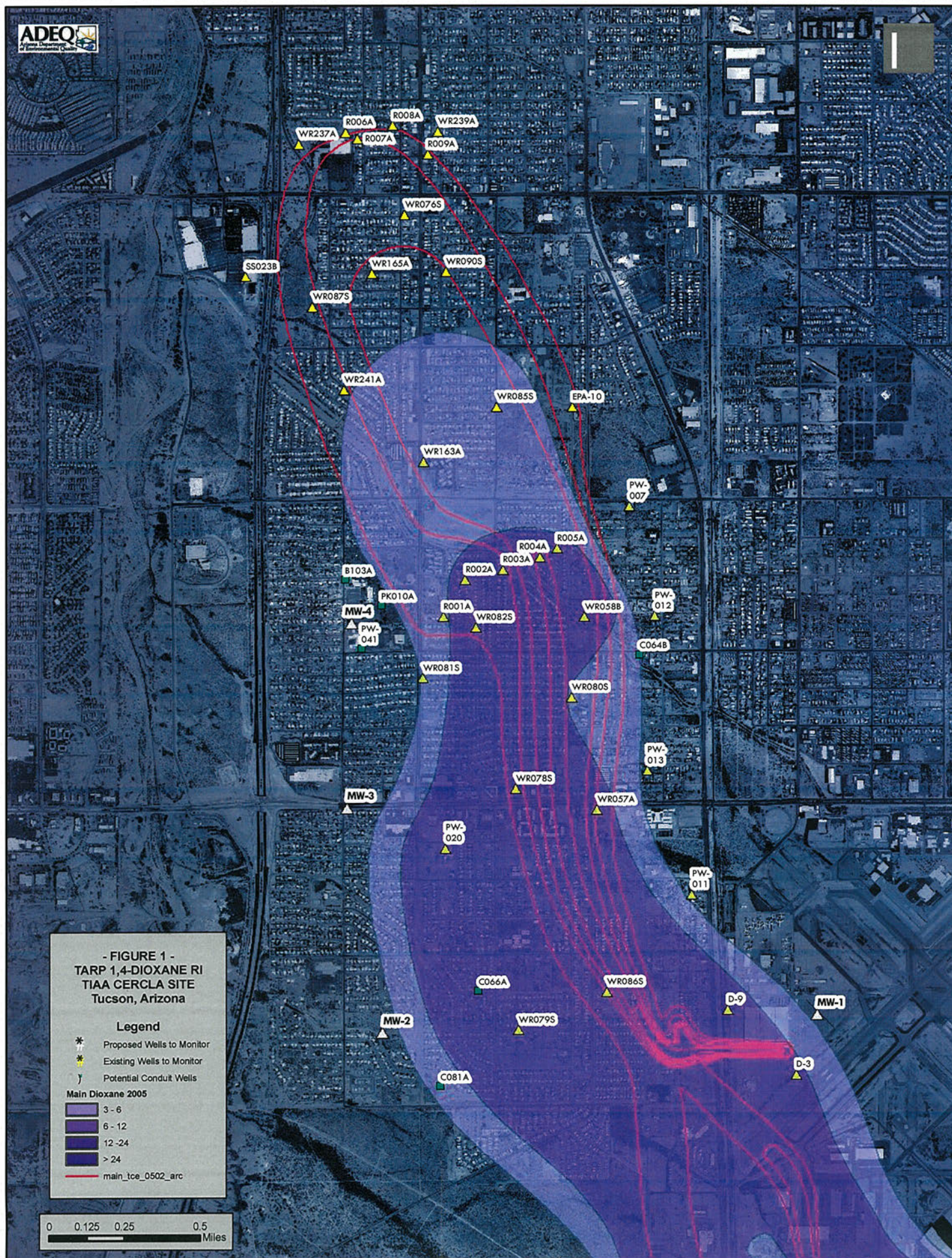
For the purposes of this Focused RI, the primary contaminant of concern (COC) is:

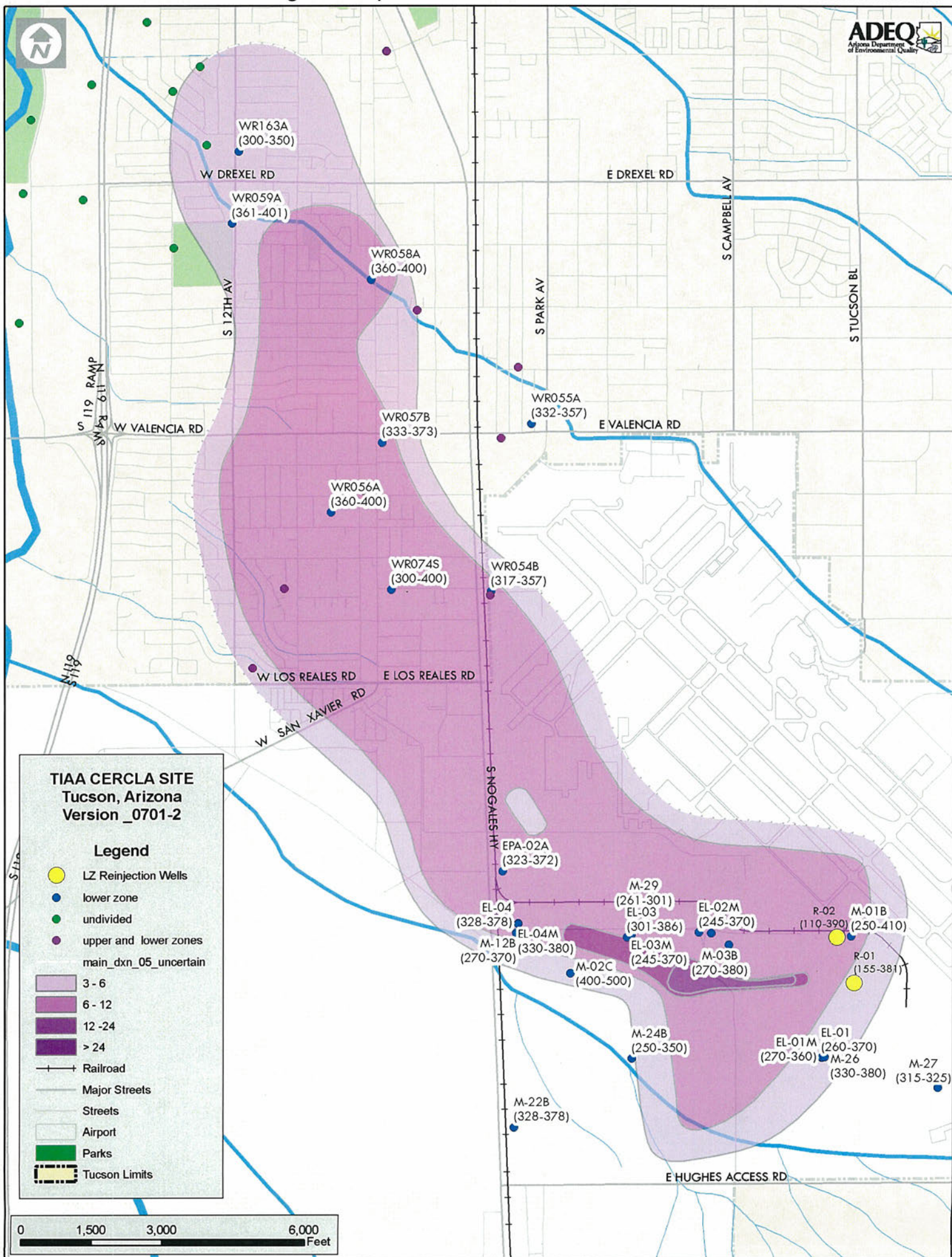
- 1,4-Dioxane (1,4-Diethyleneoxide)

1,4-Dioxane may be associated with the historical use and/or disposal of the following COCs:

- 1,1,1-Trichloroethane (1,1,1-TCA)
- 1,1-Dichloroethene (DCE)

The EPA has not set a Maximum Contaminant Level (MCL) for 1,4-dioxane in drinking water; however, the Agency has listed the compound as a probably human carcinogen and has set a Preliminary Remediation Goal of 6.1 parts per billion (ppb) and a Health Advisory Level of 3 ppb.





List of Potential Conduit Wells to be Investigated

Attachment G

Private Wells	Alias	Potential Conduit Well?
Grizzle	Stratton	Unknown
Private Well #11	478P	No
Private Well #15	467P	No
Private Well #16	455P	No
Private Well #20	461P	No
Other Wells	Alias	
407T	EPA-7	No
410T	EPA-10	No
Mission Manor School		Yes
PK-010A		Yes
C-Series Wells		
C-062B		No
C-066A		No
C-077A		Yes
C-078A		Yes
C-081A		Yes

Well B-103 is also a potential conduit well

List of TARP Monitoring Wells and Frequency

Attachment H

NAME	ALIAS1	ALIAS2	PRJAREA	PID	UID	D_UID	adwr55	ADDRESS	MP_ELEV	TOT_DEPTH	Frequency	Months	Comment
D-3			TIA	0	103005	0	55-548220		2558.87	174	semi_annual	Feb/Aug	Airport Monitor Well - Coordinate with TAA/CRA
D-9			TIA	0	103556	0	55-593481		2555.84	170.5	semi_annual	Feb/Aug	Airport Monitor Well - Coordinate with TAA/CRA
EPA-10	TAS-10	410T	TARP	0	109149	0	55-504633		2494.87	235	semi_annual	Feb/Aug	TARP monitor well - (EPA owns - pump needs repair?)
PW-007	TARP1451		WPB	7	108401	0	55-617431	(b) (6)	2510	150	annual	Feb	Private Well - obtain data from PDEQ if appropriate
PW-011	(b) (6)	478P	TARP	11	108390	0			2539.34	223	annual	Feb	Private Well - obtain data from PDEQ if appropriate
PW-012			TARP	12	110023	0	55-640042		2515	212	annual	Feb	Private Well - obtain data from PDEQ if appropriate
PW-013			TARP	13	110024	0			2525	0	annual	Feb	Private Well - obtain data from PDEQ if appropriate
PW-020	M. Baptist		TARP	20	110031	0		433 W. Lerdo Rd	2510	140	annual	Feb	Private Well - obtain data from PDEQ if appropriate
R001A	S-1		TARP	0	107687	0	55-533851		2495.07	165	quarterly	Feb/May/Aug/Nov	TARP extraction well
R002A	S-2		TARP	0	107688	0	55-533852		2493.12	171	quarterly	Feb/May/Aug/Nov	TARP extraction well
R003A	S-3		TARP	0	107689	0	55-533853		2494.23	169	quarterly	Feb/May/Aug/Nov	TARP extraction well
R004A	S-4		TARP	0	107690	0	55-533854		2499.58	175	quarterly	Feb/May/Aug/Nov	TARP extraction well
R005A	S-5		TARP	0	107691	0	55-533855		2501.57	155	quarterly	Feb/May/Aug/Nov	TARP extraction well
R006A	N-1		TARP	0	107692	0	55-533856		2451.8	419	quarterly	Feb/May/Aug/Nov	TARP extraction well
R007A	N-2		TARP	0	107693	0	55-533857		2450.43	424	quarterly	Feb/May/Aug/Nov	TARP extraction well
R008A	N-3		TARP	0	107694	0	55-533858		2454.48	426	quarterly	Feb/May/Aug/Nov	TARP extraction well
R009A	N-4		TARP	0	107695	0	55-533859		2462.26	425	quarterly	Feb/May/Aug/Nov	TARP extraction well
SS023B			TARP	0	109153	0	55-582687		2443	350	semi_annual	Feb/Aug	Municipal supply well (COT owned)
WR057A	WR-057A		TARP	0	107842	0	55-505571		2524	190	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR058B	WR-058B		TARP	0	107845	0	55-505574		2504.35	165	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR076S	SF-7		TARP	0	107870	0	55-508643		2460	404	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR078S	SF-9		TARP	0	107872	0	55-507251		2511.1	160	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR079S	SF-09		TARP	0	107873	102255	55-507252		2526.7	151	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR080S	SF-11		TARP	0	107874	0	55-507253		2510.9	162	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR081S	SF-12		TARP	0	107875	0	55-507254		2492	176	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR082S			TARP	0	107876	0	55-507255		2495.6	170	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR085S	SF-15		TARP	0	107879	0	55-507258		2486.2	195	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR086S	SF-16		TARP	0	107880	102256	55-507259		2532.5	145	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR087S	SF-17		TARP	0	107881	0	55-507260		2461.7	245	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR090S	SF-20		TARP	0	107884	0	55-507263		2468.4	215	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR163A			TARP	0	107961	0	55-525341		2447.6	355	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR165A			TARP	0	107963	0	55-525339		2462.3	355	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR237A			TARP	0	108068	0	55-543836		2444.65	380	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR239A			TARP	0	108070	0	55-543835		2458.83	404	semi_annual	Feb/Aug	TARP monitor well (COT owned)
WR241A			TARP	0	108072	0	55-543833		2462.2	255	semi_annual	Feb/Aug	TARP monitor well (COT owned)